

WHAT IS CLAIMED IS:

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1 A method of controlling wireless communication between first and second frequency hopping wireless communication devices, comprising:

5 the first device transmitting first data to the second device via a wireless communication link using a first data transmission rate and frequencies specified by a frequency hopping pattern;

based on a selected criterion, selecting a single frequency from the frequency hopping pattern;

10 the first device deviating from the frequency hopping pattern for a period of time and transmitting second data to the second device via the wireless communication link on said single selected frequency during said period of time instead of on a plurality of frequencies specified by the frequency hopping pattern for transmissions from the first device to the second device during said period of time; and

15 said step of transmitting second data including the first device transmitting the second data to the second device using a second data transmission rate that is different than said first data transmission rate.

2. The method of Claim 1, including the second device transmitting to the first device on said single frequency during said period of time instead of on a plurality of

frequencies specified by the frequency hopping pattern for transmissions from the second device to the first device during said period of time.

5 3. The method of Claim 1, wherein said second data includes at least a portion of one of a data file, a digitized image, a digitized voice communication and an Internet web page.

10 4. The method of Claim 1, wherein said step of transmitting second data to the second device using a second data transmission rate includes the first device transmitting the second data to the second device using a coding rate that is higher than a coding rate associated with the first data transmission rate.

15 5. The method of Claim 1, wherein said step of transmitting second data to the second device using a second data transmission rate includes the first device transmitting the second data to the second device using a packet length that is longer than a packet length associated with the first data transmission rate.

20 6. The method of Claim 5, wherein said step of transmitting second data to the second device using a second data transmission rate includes the first device transmitting the second data to the second device using a coding rate that is higher than a coding rate associated with the first data transmission rate.

25 7. The method of Claim 1, wherein said step of transmitting second data includes the first device transmitting during said period of time an amount of information

that is equal to an amount of information that could have been transmitted by the first device during said period of time using said first data transmission rate, whereby a portion of said period of time is made available for at least another wireless communication involving one of the first and second devices.

5 8. The method of Claim 1, wherein the first and second devices are one and the other, respectively, of a Bluetooth master device and a Bluetooth slave device.

 9. The method of Claim 1, including the first device transmitting to the second device via the wireless communication link information indicative of said single frequency, said period of time, and the second data transmission rate.

10 10. The method of Claim 1, wherein said second data requires a higher quality of service than does said first data, and wherein said second data transmission rate is lower than said first data transmission rate.

 11. A method of controlling wireless communication between first and second frequency hopping wireless communication devices, comprising:

15 the first device transmitting first data to the second device via a wireless communication link using frequencies specified by a frequency hopping pattern;

 providing second data for transmission from the first device to the second device;

 based on a selected criterion, selecting a single frequency from the frequency hopping pattern;

5 based on a characteristic of the second data, the first device deviating from the frequency hopping pattern for a period of time and transmitting the second data to the second device via the wireless communication link on the single selected frequency during said period of time instead of on a plurality of frequencies specified by the frequency hopping pattern for transmissions from the first device to the second device during said period of time.

10 12. The method of Claim 11, wherein said step of transmitting second data includes the first device using, for transmission of the second data, a data transmission rate that is different than a data transmission rate used by the first device for transmission of the first data.

13. The method of Claim 11, including the second device transmitting to the first device via the wireless communication link on said single frequency during said period of time instead of on a plurality of frequencies specified by the frequency hopping pattern for transmissions from the second device to the first device during said period of time.

15 14. The method of Claim 11, wherein said characteristic of said second data is that said second data requires a higher quality-of-service than does said first data.

15. The method of Claim 11, wherein said characteristic of said second data is that said second data includes at least a portion of one of a data file, a digitized image and an Internet web page.

16. The method of Claim 11, including the first device transmitting to the second device via the wireless communication link information indicative of said single frequency and said period of time.

17. The method of Claim 11, wherein said first and second devices are one and the other, respectively, of a Bluetooth master device and a Bluetooth slave device.

18. A frequency hopping wireless communication apparatus, comprising:
a wireless communication interface for transmitting first data to a further frequency hopping wireless communication apparatus via a wireless communication link using a first data transmission rate and frequencies specified by a frequency hopping pattern;

a controller coupled to said wireless communication interface for instructing said wireless communication interface to deviate from the frequency hopping pattern for a period of time and transmit second data to the further apparatus via the wireless communication link on a single selected frequency during said period of time instead of on a plurality of frequencies specified by the frequency hopping pattern for transmission from said wireless communication interface to the further apparatus during said period of time, said single selected frequency selected from the frequency hopping pattern based on a selected criterion;
and

said controller further for selecting a second data transmission rate for transmission of the second data during said period of time, wherein said second data transmission rate is different than said first data transmission rate.

5 19. The apparatus of Claim 18, wherein said controller is operable for selecting for transmission of the second data at least one of a coding rate that is higher than a coding rate associated with the first data transmission rate and a packet length that is longer than a packet length associated with the first data transmission rate.

10 20. The apparatus of Claim 18, wherein said wireless communication interface is responsive to said controller for transmitting during said period of time an amount of information that is equal to an amount of information that could have been transmitted by said wireless communication interface during said period of time using said first data transmission rate, whereby a portion of said period of time is made available for at least another wireless communication involving one of said wireless communication interface and the further apparatus.

15 21. The apparatus of Claim 18, including a parameter generator coupled to said controller for producing information indicative of said single frequency, said period of time and the second data transmission rate and providing said information to said controller.

 22. The apparatus of Claim 21, wherein said parameter generator is coupled to said wireless communication interface for providing said information to said wireless

communication interface for transmission via the wireless communication link to the further apparatus.

23. The apparatus of Claim 18, wherein said second data includes at least a portion of one of a data file, a digitized image, a digitized voice communication and an Internet web page.

24. The apparatus of Claim 18, provided as one of a Bluetooth master device and a Bluetooth slave device.

25. The apparatus of Claim 18, wherein said second data requires a higher quality of service than does said first data, and wherein said second data transmission rate is lower than said first data transmission rate.

26. A frequency hopping wireless communication apparatus, comprising:
a wireless communication interface for transmitting first data to a further frequency hopping wireless communication apparatus via a wireless communication link using frequencies specified by a frequency hopping pattern;

an input for receiving information indicative of a characteristic of second data to be transmitted by said wireless communication interface to the further apparatus; and

a controller coupled to said input and to said wireless communication interface, said controller operable based on said characteristic for instructing said wireless communication interface to deviate from the frequency hopping pattern for a period of time and transmit the

second data to the further apparatus via the wireless communication link on a single selected frequency during said period of time instead of on a plurality of frequencies specified by the frequency hopping pattern for transmissions from said wireless communication interface to the further apparatus during said period of time, said single selected frequency selected from the frequency hopping pattern based on a selected criterion.

27. The apparatus of Claim 26, wherein said controller is further operable for selecting a second data transmission rate for transmission of the second data during said period of time, wherein said second data transmission rate is different than a data transmission rate used for transmission of the first data.

28. The apparatus of Claim 26, wherein said characteristic of said second data is that said second data requires a higher quality-of-service than does said first data.

29. The apparatus of Claim 26, wherein said characteristic of said second data is that said second data includes at least a portion of one of a data file, a digitized image and an Internet web page.

30. The apparatus of Claim 26, including a parameter generator connected between said input and said controller for producing information indicative of said single frequency and said period of time and providing said information to said controller.

31. The apparatus of Claim 30, wherein said parameter generator is coupled to said wireless communication interface for providing said information to said wireless

communication interface for transmission via the wireless communication link to the further apparatus.

32. The apparatus of Claim 26, provided as one of a Bluetooth master device and a Bluetooth slave device.

5 33. The method of Claim 1, wherein the selected criterion is a frequency quality criterion.

34. The method of Claim 11, wherein the selected criterion is a frequency quality criterion.

10 35. The apparatus of Claim 18, wherein the selected criterion is a frequency quality criterion.

36. The apparatus of Claim 26, wherein the selected criterion is a frequency quality criterion.